CIVIL QUALITY CONSULTANTS & ENGINEERS
ISO 9001:2015 Certified & NABL Accredited Laboratory as per ISO/IEC - 17025-2017

Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

15.04.2022

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Client : **Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.

Contractor : **M/s SKS Infrastructure Pvt Ltd,** Bangalore.

Name of the work : Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{25}

Compressive Strength as on : 7th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	08.04.2022	15.04.2022	8.174	410.2	18.23
2	08.04.2022	15.04.2022	8.154	425.8	18.92
3	08.04.2022	15.04.2022	8.121	432.6	19.23

Note:

1. The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

Corporate Off.: No. 133, Bhuvaneshwarinagar, Doddabasti Main Road, Bangalore-560 056.
Contact: 8553518550, 080-23240644 Email: civilqualityconsultants@gmail.com

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CONSULTANTS & ENGINEERS
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Laboratory as per ISO/IEC - 17025-2017

Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

06.05.2022

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Client : **Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.

Contractor : **M/s SKS Infrastructure Pvt Ltd,** Bangalore.

Name of the work : Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{25}

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	08.04.2022	06.05.2022	8.169	603.1	26.80
2	08.04.2022	06.05.2022	8.032	629.3	27.97
3	08.04.2022	06.05.2022	8.001	634.5	28.20

Note:

1. he Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

15.04.2022

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Client : **Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.

Contractor : **M/s SKS Infrastructure Pvt Ltd,** Bangalore.

Name of the work : Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{25}

Compressive Strength as on : 7th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	08.04.2022	15.04.2022	8.152	416.5	18.51
2	08.04.2022	15.04.2022	8.113	428.9	19.06
3	08.04.2022	15.04.2022	8.020	432.1	19.20

Note:
1. he Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

06.05.2022

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Client : **Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.

Contractor : **M/s SKS Infrastructure Pvt Ltd,** Bangalore.

Name of the work : Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{25}

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	08.04.2022	06.05.2022	8.166	589.2	26.19
2	08.04.2022	06.05.2022	8.192	598.7	26.61
3	08.04.2022	06.05.2022	8.154	603.1	26.80

Note:

1. he Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

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CIVIL QUALITY CONSULTANTS & ENGINEERS

ISO 9001:2015 Certified & NABL Accredited Laboratory as per ISO/IEC - 17025-2017

Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

15.04.2022

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Client : **Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.

Contractor : **M/s SKS Infrastructure Pvt Ltd,** Bangalore.

Name of the work : Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{25}

Compressive Strength as on : 7th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	08.04.2022	15.04.2022	8.112	396.2	17.61
2	08.04.2022	15.04.2022	8.136	400.5	17.80
3	08.04.2022	15.04.2022	8.174	420.0	18.67

Note:

1. he Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

06.05.2022

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Client : **Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.

Contractor : **M/s SKS Infrastructure Pvt Ltd,** Bangalore.

Name of the work : Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{25}

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	08.04.2022	06.05.2022	8.112	610.0	27.11
2	08.04.2022	06.05.2022	8.165	620.0	27.56
3	08.04.2022	06.05.2022	8.196	630.0	28.00

Note:
1. he Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

Date: 22.04.2022

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Client : **Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.

Agency : **M/s SKS Infrastructure Pvt Ltd,** Bangalore.

Name of the work : Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{30}

Compressive Strength as on : 7th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	15.04.2022	22.04.2022	8.112	502.1	22.32
2	15.04.2022	22.04.2022	8.036	516.9	22.97
3	15.04.2022	22.04.2022	8.154	522.3	23.21

Note:

1. The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

Corporate Off.: No. 133, Bhuvaneshwarinagar, Doddabasti Main Road, Bangalore-560 056.
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CIVIL QUALITY CONSULTANTS & ENGINEERS
ISO 9001:2015 Certified & NABL Accredited Laboratory as per ISO/IEC - 17025-2017

Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

Date: 13.05.2022

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Client : **Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.

Agency : **M/s SKS Infrastructure Pvt Ltd,** Bangalore.

Name of the work : Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{30}

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	15.04.2022	13.05.2022	8.198	717.2	31.88
2	15.04.2022	13.05.2022	8.014	736.0	32.71
3	15.04.2022	13.05.2022	8.003	748.0	33.24

Note:

1. The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

Date: 22.04.2022

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Client : **Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.

Agency : **M/s SKS Infrastructure Pvt Ltd,** Bangalore.

Name of the work : Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{30}

Compressive Strength as on : 7th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	15.04.2022	22.04.2022	8.162	504.2	22.41
2	15.04.2022	22.04.2022	8.025	512.3	22.77
3	15.04.2022	22.04.2022	8.198	528.9	23.51

Note:
1. The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

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CIVIL QUALITY CONSULTANTS & ENGINEERS

ISO 9001:2015 Certified & NABL Accredited Laboratory as per ISO/IEC - 17025-2017

Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

Date: 13.05.2022

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Client : **Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.

Agency : **M/s SKS Infrastructure Pvt Ltd,** Bangalore.

Name of the work : Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{30}

Compressive Strength as on : 28th day

SLNo.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	15.04.2022	13.05.2022	8.147	710.0	31.56
2	15.04.2022	13.05.2022	8.196	720.0	32.00
3	15.04.2022	13.05.2022	8.002	730.0	32.44

Note:

1. The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

JobNo: CQCE/BBMP/SKS/17/2022-2023

Date 20.05.2022

GRADATION FOR GSB (Grading V)

Client : : Assistant Executive Engineer, Yeshwanthpura Sub Division,BBMP, Bangalore.

Agency: : M/s SKS Infrastructure Pvt Ltd, Bangalore.

Name of work: : Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore

BIS Code: IS 2386 Part (1):1963
IS 2720 part (5):1985

Date of Testing 18.05.2022 to 20.05.2022

Oven Dry Wt (gm) : 13000

TABLE – 1

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Requirements as per MORTH 5th edition table 400.1
75	0	0	0.00	100	100
53	1478	1478	11.37	88.63	80-100
26.5	2487	3965	30.50	69.50	55-90
9.5	2361	6326	48.66	51.34	35-65
4.75	1784	8110	62.38	37.62	25-50
2.36	2654	10764	82.80	17.20	10-20
0.85	1594	12358	95.06	4.94	2-10
0.425	231	12589	96.84	3.16	0-5

Table 2

Sl. No.	Particulars	Test Results	Requirements as per MORTH 5th edition table 400.2
1	Liquid Limit, %	20.50	25.0% Maximum.
2	Plasticity Index, %	Non Plastic	6.0% Maximum.

Remarks: Satisfies MORTH Specifications as per Table 400-1, Grading V

Note:

1. The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

JobNo: CQCE/BBMP/SKS/17/2022-2023 Date 20.05.2022

GRADATION FOR GSB (Grading V)

Client : **: Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency: **: M/s SKS Infrastructure Pvt Ltd,** Bangalore.
Name of work: : Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore

BIS Code: IS 2386 Part (1):1963
IS 2720 part (5):1985

Date of Testing 18.05.2022 to 20.05.2022

Oven Dry Wt (gm) : 13000

TABLE – 1

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Requirements as per MORTH 5th edition table 400.1
75	0	0	0.00	100	100
53	1487	1487	11.44	88.56	80-100
26.5	2264	3751	28.85	71.15	55-90
9.5	2547	6298	48.45	51.55	35-65
4.75	1849	8147	62.67	37.33	25-50
2.36	2631	10778	82.91	17.09	10-20
0.85	1524	12302	94.63	5.37	2-10
0.425	240	12542	96.48	3.52	0-5

Table 2

Sl No.	Particulars	Test Results	Requirements as per MORTH 5th edition table 400.2
1	Liquid Limit, %	20.50	25.0% Maximum.
2	Plasticity Index, %	Non Plastic	6.0% Maximum.

Remarks: Satisfies MORTH Specifications as per Table 400-1, Grading V

Note:

1. The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

Date : 24.05.2022

GRADATION FOR WMM

Client : **Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.

Agency : **M/s SKS Infrastructure Pvt Ltd,** Bangalore.

Name of Work : Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore

IS Code: : IS 2386 (Part 1):1963(RA 2011)

Date of Testing 24.05.2022

Material Type : Wet Mix Macadam

Oven Dry.Wt, grar 10000

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Requirement as per MORTH 5th edition table no 400.13
53	0	0	0	100	100
45	401	401	4.0	96.0	95-100
22.4	2369	2770	27.7	72.3	60-80
11.2	2214	4984	49.8	50.2	40-60
4.75	1528	6512	65.1	34.9	25-40
2.36	1232	7744	77.4	22.6	15-30
0.600	565	8309	83.1	16.9	8-22
0.075	1524	9833	98.3	1.7	0-5

Note:

1. The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

Corporate Off.: No. 133, Bhuvaneshwarinagar, Doddabasti Main Road, Bangalore-560 056.
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CIVIL QUALITY CONSULTANTS & ENGINEERS

ISO 9001:2015 Certified & NABL Accredited Laboratory as per ISO/IEC - 17025-2017

Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

Date : 24.05.2022

GRADATION FOR WMM

Client : **Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.

Agency : **M/s SKS Infrastructure Pvt Ltd,** Bangalore.

Name of Work : Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore

IS Code: : IS 2386 (Part 1):1963(RA 2011)

Date of Testing 24.05.2022

Material Type : Wet Mix Macadam

Oven Dry.Wt, grar 10000

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Requirement as per MORTH 5th edition table no 400.13
53	0	0	0	100	100
45	204	204	2.0	98.0	95-100
22.4	2465	2669	26.7	73.3	60-80
11.2	2239	4908	49.1	50.9	40-60
4.75	1427	6335	63.4	36.7	25-40
2.36	1021	7356	73.6	26.4	15-30
0.600	485	7841	78.4	21.6	8-22
0.075	1847	9688	96.9	3.1	0-5

Note:

1. The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

Corporate Off.: No. 133, Bhuvaneshwarinagar, Doddabasti Main Road, Bangalore-560 056.
Contact: 8553518550, 080-23240644 Email: civilqualityconsultants@gmail.com

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CIVIL QUALITY CONSULTANTS & ENGINEERS
ISO 9001:2015 Certified & NABL Accredited Laboratory as per ISO/IEC - 17025-2017

Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023 Date : 24.05.2022

GRADATION FOR WMM

Client : **Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency : **M/s SKS Infrastructure Pvt Ltd,** Bangalore.
Name of Work : Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore

IS Code: : IS 2386 (Part 1):1963(RA 2011)
Date of Testing 24.05.2022
Material Type : Wet Mix Macadam

Oven Dry.Wt, grar 10000

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Requirement as per MORTH 5th edition table no 400.13
53	0	0	0	100	100
45	205	205	2.1	98.0	95-100
22.4	2418	2623	26.2	73.8	60-80
11.2	2235	4858	48.6	51.4	40-60
4.75	1748	6606	66.1	33.9	25-40
2.36	1025	7631	76.3	23.7	15-30
0.600	601	8232	82.3	17.7	8-22
0.075	1451	9683	96.8	3.2	0-5

Note:
1. The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

Date : 24.05.2022

GRADATION FOR WMM

Client : **Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency : **M/s SKS Infrastructure Pvt Ltd,** Bangalore.
Name of Work : Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore

IS Code: : IS 2386 (Part 1):1963(RA 2011)
Date of Testing 24.05.2022
Material Type : Wet Mix Macadam

Oven Dry.Wt, grar 10000

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Requirement as per MORTH 5th edition table no 400.13
53	0	0	0	100	100
45	132	132	1.3	98.7	95-100
22.4	2468	2600	26.0	74.0	60-80
11.2	2212	4812	48.1	51.9	40-60
4.75	1634	6446	64.5	35.5	25-40
2.36	1212	7658	76.6	23.4	15-30
0.600	602	8260	82.6	17.4	8-22
0.075	1289	9549	95.5	4.5	0-5

Note:
1. The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023 Date: 24.05.2022

Aggregate Impact Value

Client	**: Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency	**: M/s SKS Infrastructure Pvt Ltd,** Bangalore.
Name of the Work	: Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore
IS Code	IS 2386 (Part 4):1963(RA 2011)
Type of Mix	Wet Mix macadam
Date of Testing	24.05.2022

Sl No.	Details	Test No. 1	Test No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	387	389	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	85	87	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	302	302	
4	Aggregate Impact value = percent fines 100* (W_2/W_1)%	21.96	22.37	22.16

Comments:
→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%(As per MORTH Specication table 400.12)

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

Note:
→ The Material is satisfied as per the requirement.

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023 Date : 24.05.2022

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	: **Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency	: **M/s SKS Infrastructure Pvt Ltd,** Bangalore.
Name of Work	: Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore
BIS code:	IS 2386(Part 1) 1963 (RA 2011)
Type of Mix	Wet Mix Macadam
Date of Testing	24.05.2022

Sl no	Test	1	2	Requirements as per MORTH 5th edition table no 400.12
1	Flakiness Index %	11.2	14.9	Combined Flakiness & Elongation index Max 35%
2	Elongation Index %	13.6	12.5	
	Combined Flakiness & Elongation index	24.80	27.4	

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

Note:

→ The Material is satisfied as per the requirement.

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023 Date : 24.05.2022

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	: **Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency	: **M/s SKS Infrastructure Pvt Ltd,** Bangalore.
Name of Work	: Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore
BIS code:	IS 2386(Part 1) 1963 (RA 2011)
Type of Mix	Wet Mix Macadam
Date of Testing	24.05.2022

Sl no	Test	1	2	Requirements as per MORTH 5th edition table no 400.12
1	Flakiness Index %	11.6	14.2	Combined Flakiness & Elongation index Max 35%
2	Elongation Index %	12.3	13.5	
	Combined Flakiness & Elongation index	23.90	27.7	

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

Note:
→ The Material is satisfied as per the requirement.

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

Date 26.05.2022

ATTERBERG LIMITS TEST FOR WMM

Client : **Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency : **M/s SKS Infrastructure Pvt Ltd,** Bangalore.
Name of Work : Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore

IS Code: IS 2720(Part 5):1985
Date of Testing 24.05.2022 to 26.05.2022
Material Type : Wet Mix Macadam

Sl. No.	Particulars	Test Results	Requirement as per MORTH 5th edition Cl.406.2.1.2
1	Liquid Limit	23.00	-
2	Plasticity Index, %	Non Plastic	6.0% Maximum.

Note:
1. The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

Corporate Off.: No. 133, Bhuvaneshwarinagar, Doddabasti Main Road, Bangalore-560 056.
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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

Date 26.05.2022

ATTERBERG LIMITS TEST FOR WMM

Client : **Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency : **M/s SKS Infrastructure Pvt Ltd,** Bangalore.
Name of Work : Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore

IS Code: IS 2720(Part 5):1985
Date of Testing 24.05.2022 to 26.05.2022
Material Type : Wet Mix Macadam

Sl. No.	Particulars	Test Results	Requirement as per MORTH 5th edition Cl.406.2.1.2
1	Liquid Limit	24.00	-
2	Plasticity Index, %	Non Plastic	6.0% Maximum.

Note:
1. The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

Date 26.05.2022

ATTERBERG LIMITS TEST FOR WMM

Client : **Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency : **M/s SKS Infrastructure Pvt Ltd,** Bangalore.
Name of Work : Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore

IS Code: IS 2720(Part 5):1985
Date of Testing 24.05.2022 to 26.05.2022
Material Type : Wet Mix Macadam

Sl. No.	Particulars	Test Results	Requirement as per MORTH 5th edition Cl.406.2.1.2
1	Liquid Limit	21.00	-
2	Plasticity Index, %	Non Plastic	6.0% Maximum.

Note:
1. The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

Date 26.05.2022

ATTERBERG LIMITS TEST FOR WMM

Client : **Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency : **M/s SKS Infrastructure Pvt Ltd,** Bangalore.
Name of Work : Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore

IS Code: IS 2720(Part 5):1985
Date of Testing 24.05.2022 to 26.05.2022
Material Type : Wet Mix Macadam

Sl. No.	Particulars	Test Results	Requirement as per MORTH 5th edition Cl.406.2.1.2
1	Liquid Limit	21.00	-
2	Plasticity Index, %	Non Plastic	6.0% Maximum.

Note:
1. The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No: CQCE/BBMP/SKS/17/2022-2023 Date: 01.06.2022

TEST REPORT ON PAVING BITUMEN

Client :	**: Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency:	**: M/s SKS Infrastructure Pvt Ltd,** Bangalore.
Name of work:	: Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore
BIS Code:	IS 73:2013,IS 1203:1978, IS 1208:1978, IS 1205:1978, IS1448(P-69):1969
Date of Testing:	01.06.2022
Type of Mix:	**Dense Graded Bituminous Macadam , VG 30**
Source of Location:	**Hot Mix Plant**

The results of the tests conducted on the bitumen sample using for Dense Graded Bituminous Macadam

Sl.No	Description	Test Result	Requirement as per IS:73:2013
1	Penetration at 25 0C, 100gms, 5sec, 1/10 mm	48	Min 45
2	Softening point, 0C	54	Min 47
3	Ductility at 250C, cm	99	Min40
4	Flash Point, 0C	248	Min 220

Note:

1. The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

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JobNo: CQCE/BBMP/SKS/17/2022-2023

Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultant & Third Party Quality Assurance, DPR.

TEST RESULTS OF AGGREGATE IMPACT VALUE

Client : : Assistant Executive Engineer, Yeshwanthpura Sub Division,BBMP, Bangalore.

Agency: : M/s SKS Infrastructure Pvt Ltd, Bangalore.

Name of work: : Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore

Source / Location Hot Mix Plant, Bangalore

BIS Code: IS 2386 Part (4):1963

Type of Mix: Dense Graded Bituminous Macadam

Date of test: 01.06.2022

Sl No.	Details	Test No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W1 g	400	400	
2	Weight of agregate passing 2.36 mm sieve after the test = W2 g	81	83	
3	Weight of aggregate retained 2.36 mm sieve after the test = W3 g	319	317	
5	Aggregate Impact value = percent fines 100* (W2/W1) percent	20.25	20.75	**20.50**

Comments:

→ Maximum allowable Aggregate Impact value for Dense Graded Bituminous Macadam is 27% (Table 500-8 of MORTH specification)

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

Note:

1. The Material is satisfied as per the requirement.

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

JobNo: CQCE/BBMP/SKS/17/2022-2023

Date 01.06.2022

TEST RESULTS OF AGGREGATE SHAPE TEST (Flakiness & Elongation)

Client : : Assistant Executive Engineer, Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency: : M/s SKS Infrastructure Pvt Ltd, Bangalore.
Name of work: : Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore
BIS Code: IS 2386 Part (1):1963
Date of Test: 01.06.2022
Type of Mix: Dense Graded Bituminous Macadam

Sl.No.	Flakiness Index Value(%)	Elongation Index Value(%)	Total(Combined Flakiness and Elongation)(%)	Requirements
1	10.30	13.10	23.40	Maximum allowable Combined Flakiness and Elongation Indices for Dense Graded Bituminous Macadam is 35% as per Table 500.8 MORTH Specification.
2	12.80	14.50	27.30	
3	10.60	10.20	20.80	

Note:
1. The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS
Authorized Signatory

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

Date: 03.06.2022

Specific Gravity And Water Absorption Test

Client	**: Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency	**: M/s SKS Infrastructure Pvt Ltd,** Bangalore.
Name of the Work	: Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore
BIS Code	IS 2386(Part 3):1963
Type of Mix	Dense Graded Bituminous Macadam
Date of Testing	01.06.2022 to 03.06.2022

Sl. No.	Details	Notation	Test Number			Mean Value
			Test 1	Test 2	Test 3	
1	Weight of aggregate suspended in water with the basket	W_1 g	2021	2023	2025	
2	Weight of basket suspended in water	W_2 g	754	754	754	
3	Weight of saturated aggregate in water	$(W_1 - W_2) = W_s$ g	1267	1269	1271	
4	Weight of saturated surface dry aggregate in air	W_3 g	2014	2016	2018	
5	Weight of water equal to the volume of the aggregate	$(W_3 - W_S)$ g	747	747	747	
6	Weight of oven dried aggregate	W_4 g	2004	2006	2007	
7	Specific Gravity	$W_4/(W_3-W_S)$	2.683	2.685	2.687	2.685
8	Apparent Specific gravity	$W_4/(W_4-W_S)$	2.719	2.722	2.727	2.723
9	Water Absorption	$((W_3-W_4)*100)/W_4$	0.50%	0.50%	0.55%	0.52%

Comments:

→ Maximum allowable Aggregate Water absorption value for Dense Graded Bituminous Macadam is 2.0%(As per MORTH table 500.8)

Note:

1/ The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023 Date: 01.06.2022

Aggregate Gradation Test

Client	**: Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency	**: M/s SKS Infrastructure Pvt Ltd,** Bangalore.
Name of the Work	: Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore
BIS Code	IS 2386(Part 1):1963(RA 2011)
Sample I / D	Hot mix Plant, Bangalore.
Type of Mix	Dense Graded Bituminous Macadam
Date of Testing	01.06.2022

Total Weight of Sample: **10000** gm

SIEVE SIZE, mm	Weight Retained, gm	% Retained	Cummulative % Retained	% Passing	Requirement as per MORTH table 500.10	Remarks
37.50	0	0.0	0	100	100	Gradation satisfies Grade-II MORTH specification
26.50	669	6.7	6.69	93.31	90 - 100	
19.00	1124	11.2	17.93	82.07	71 - 95	
13.20	1325	13.3	31.18	68.82	56 - 80	
4.75	2563	25.6	56.81	43.19	38 - 54	
2.36	1354	13.5	70.35	29.65	28 - 42	
0.300	1587	15.9	86.22	13.78	7 - 21	
0.075	988	9.9	96.10	3.90	2 - 8	

Total Weight of Sample: **10000** gm

SIEVE SIZE, mm	Weight Retained, gm	% Retained	Cummulative % Retained	% Passing	Requirement as per MORTH table 500.10	Remarks
37.5	0	0.0	0	100	100	Gradation satisfies Grade-II MORTH specification
26.5	655	6.6	6.55	93.45	90 - 100	
19	1454	14.5	21.09	78.91	71 - 95	
13.2	1326	13.3	34.35	65.65	56 - 80	
4.75	2323	23.2	57.58	42.42	38 - 54	
2.360	1212	12.1	69.70	30.30	28 - 42	
0.300	1478	14.8	84.48	15.52	7 - 21	
0.075	999	10.0	94.47	5.53	2 - 8	

Note:
1. The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023 Date: 04.06.2022

TEST REPORT ON STABILITY OF MIX

Client	:	**: Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency	:	**: M/s SKS Infrastructure Pvt Ltd,** Bangalore.
Name of the Work	:	: Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore
Type of Mix	:	Dense Graded Bituminous Macadam
Date of Testing	:	04.06.2022

The results of the tests conducted on the Bituminous Concrete mix sample are as follows:

Sl. No	Description	Test Result 1	Test Result 2	Requirement as per MORTH (Table 500-19)
1	Marshal Stability, Kn	9.91	9.50	9 Kn (min)
2	Marshal flow, mm	3.34	3.22	2 – 4
3	Percent air voids in Mineral Aggregate	14.78	13.88	13 – 15
4	Voids in Compacted Mix	3.28	4.20	3 – 6
5	Percent Voids filled with Bitumen	67.65	69.41	65 - 75
6	Density, g/cc	2.25	2.26	--

Note:
The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

Corporate Off.: No. 133, Bhuvaneshwarinagar, Doddabasti Main Road, Bangalore-560 056.
Contact: 8553518550, 080-23240644 Email: civilqualityconsultants@gmail.com

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

Date: 04.06.2022

BITUMEN CONTENT AND GRADATION DETERMINATION OF DENSE GRADED BITUMINOUS MACADAM MIX AASHTO T 164 & AASHTO T 30

Client	: Assistant Executive Engineer, Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency	: M/s SKS Infrastructure Pvt Ltd, Bangalore.
Name of the Work	: Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore
Date of Testing	04.06.2022

BITUMEN CONTENT DETERMINATION

Description	Test 1	Test 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	477	476
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	23.00	24.00
7. Bitumen content in %	4.60	4.80
8. Average	4.70	

GRADATION AFTER EXTRACTION

SIEVE SIZE	Test 1				Requirement as per MORTH table 500.10
mm	Weight Retained, gm	Cummulative Weight Retained	%Cummulative Retained	% Passing	
37.5	0	0	0	100	100
26.5	25.6	25.6	5.4	94.6	90 - 100
19	72.1	97.7	20.5	79.5	71 - 95
13.2	68.9	166.6	34.9	65.1	56 - 80
4.75	83.1	249.7	52.3	47.7	38 - 54
2.360	75.4	325.1	68.2	31.8	28 - 42
0.300	92.3	417.4	87.5	12.5	7 - 21
0.075	33.1	450.5	94.4	5.6	2 - 8

SIEVE SIZE	Test 2				Requirement as per MORTH table 500.10
mm	Weight Retained, gm	Cummulative Weight Retained	%Cummulative Retained	% Passing	
37.5	0	0	0	100	100
26.5	30.5	30.5	6.4	93.6	90 - 100
19	71.6	102.1	21.4	78.6	71 - 95
13.2	69.8	171.9	36.1	63.9	56 - 80
4.75	82.30	254.2	53.4	46.6	38 - 54
2.360	75.4	329.6	69.2	30.8	28 - 42
0.300	92.3	421.9	88.6	11.4	7 - 21
0.075	30.5	452.4	95.0	5.0	2 - 8

Note:

Þ The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

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Contact: 8553518550, 080-23240644 Email: civilqualityconsultants@gmail.com

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

Date: 04.06.2022

BITUMEN CONTENT AND GRADATION DETERMINATION OF DENSE GRADED BITUMINOUS MACADAM MIX AASHTO T 164 & AASHTO T 30

Client	: Assistant Executive Engineer, Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency	: M/s SKS Infrastructure Pvt Ltd, Bangalore.
Name of the Work	: Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore
Date of Testing	04.06.2022

BITUMEN CONTENT DETERMINATION

Description	Test 1	Test 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	477	476
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	23.00	24.00
7. Bitumen content in %	4.60	4.80
8. Average	4.70	

GRADATION AFTER EXTRACTION

SIEVE SIZE	Test 1				Requirement as per MORTH table 500.10
mm	Weight Retained, gm	Cummulative Weight Retained	%Cummulative Retained	% Passing	
37.5	0	0	0	100	100
26.5	21.7	21.7	4.5	95.5	90 - 100
19	76.8	98.5	20.6	79.4	71 - 95
13.2	65.2	163.7	34.3	65.7	56 - 80
4.75	84.7	248.4	52.1	47.9	38 - 54
2.360	72.3	320.7	67.2	32.8	28 - 42
0.300	95.4	416.1	87.2	12.8	7 - 21
0.075	35.4	451.5	94.7	5.3	2 - 8

SIEVE SIZE	Test 2				Requirement as per MORTH table 500.10
mm	Weight Retained, gm	Cummulative Weight Retained	%Cummulative Retained	% Passing	
37.5	0	0	0	100	100
26.5	32.1	32.1	6.7	93.3	90 - 100
19	79.8	111.9	23.5	76.5	71 - 95
13.2	65.4	177.3	37.2	62.8	56 - 80
4.75	81.30	258.6	54.3	45.7	38 - 54
2.360	74.6	333.2	70.0	30.0	28 - 42
0.300	92.4	425.6	89.4	10.6	7 - 21
0.075	25.8	451.4	94.8	5.2	2 - 8

Note:
1. The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

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Contact: 8553518550, 080-23240644 Email: civilqualityconsultants@gmail.com

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

Date: 06.06.2022

TEST REPORT

Client	:	**: Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency	:	**: M/s SKS Infrastructure Pvt Ltd,** Bangalore.
Name of the work	:	: Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore
IS Code	:	IS 15462:2004 , IS 1203:1978(RA 2008), IS 1205:1978(RA 2009), IS 1209:1978(RA 2009)
Source of location	:	Hot mix Plant, Bangalore, CRMB-55
Date of testing	:	06.06.2022

⇒ The results of the tests conducted on the bitumen sample using for Bituminous Concrete

Sl. No	Description	Test Result	Requirement as per IS:73:2013
1	Penetration at 25 ^{0}C, 1/10 mm	53	Min 45
2	Softening point, ^{0}C	52	Min. 47
3	Ductility at 27^{0}C, cm	> 100	Min. 40
4	Flash Point, ^{0}C	286	Min. 220

Note:

⇒ The Material is satisfied as per the requirement.

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

06.06.2022

Aggregate Impact Value

Client	**: Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency	**: M/s SKS Infrastructure Pvt Ltd,** Bangalore.
Name of the Work	: Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore
BIS Code	:IS 2386(Part 4):1963
Source / Location	Hot Mix Plant, Bangalore
Type of Mix	Bituminous Concrete
Date of Testing	06.06.2022

Sl No.	Details	Test No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	381	383	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	83	85	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	298	298	
4	Aggregate Impact value = percent fines			
	100* (W_2/W_1) percent	21.78	22.19	**21.99**

Comments:

→ Maximum allowable Aggregate Impact value for Bituminous Concrete is 24%(MORTH table no.500.16)

Note:

⇒ The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

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Testing of Construction Material - Mechanical, Soil,
Bitumen, Non Destructive Testing Services, Project
Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

06.06.2022

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	**: Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency	**: M/s SKS Infrastructure Pvt Ltd,** Bangalore.
Name of Work	: Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore
Technical Reference	IS 2386(Part 1) 1963 (RA 2011)
Type of Mix	Bituminous Concrete
Date of Testing	06.06.2022

Sl no	Test	1	2	Requirements as per MORTH 5th edition table no 500.16
1	Flakiness Index	14.8	10.2	Combined Flakiness & Elongation index Max 35%
2	Elongation Index	12.6	13.5	
	Combined Flakiness & Elongation index	27.40	23.70	

Note:

→ The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

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Contact: 8553518550, 080-23240644 Email: civilqualityconsultants@gmail.com

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Ref No: CQCE/BBMP/SKS/17/2022-2023

Aggregate Gradation Test

IS : 2386 Part I

06.06.2022

Client	: Assistant Executive Engineer, Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency	: M/s SKS Infrastructure Pvt Ltd, Bangalore.
Name of the Work	: Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore
BIS Code	:IS 2386(Part 1):1963
Sample I / D	Hot Mix Plant, Bangalore
Type of Mix	Bituminous Concrete
Date of Testing	06.06.2022

Total Weight of Sample: **5000** gm

SIEVE SIZE, mm	Weight Retained, gm	% Retained	Cummulative % Retained	% Passing	Requirement as per MORTH table 500.17	Remarks
19	0	0	0	100	100	Gradation satisfies Bituminous concrete Grade-II specification as per MORTH
13.2	341	6.82	6.82	93.18	90 - 100	
9.5	463	9.26	16.08	83.92	70 - 88	
4.75	758	15.16	31.24	68.76	53 - 71	
2.36	662	13.24	44.48	55.52	42 - 58	
1.18	571	11.42	55.90	44.10	34 - 48	
0.600	693	13.86	69.76	30.24	26 - 38	
0.300	555	11.10	80.86	19.14	18 - 28	
0.150	260	5.20	86.06	13.94	12 - 20	
0.075	335	6.70	92.76	7.24	4 - 10	

Total Weight of Sample: **5000** gm

SIEVE SIZE, mm	Weight Retained, gm	% Retained	Cummulative % Retained	% Passing	Requirement as per MORTH table 500.17	Remarks
19	0	0	0	100	100	Gradation satisfies Bituminous concrete Grade-II specification as per MORTH
13.2	339	6.78	6.78	93.22	90 - 100	
9.5	542	10.84	17.62	82.38	70 - 88	
4.75	682	13.64	31.26	68.74	53 - 71	
2.36	632	12.64	43.90	56.10	42 - 58	
1.18	514	10.28	54.18	45.82	34 - 48	
0.600	582	11.64	65.82	34.18	26 - 38	
0.300	569	11.38	77.20	22.80	18 - 28	
0.150	321	6.42	83.62	16.38	12 - 20	
0.075	547	10.94	94.56	5.44	4 - 10	

Note:
⇒ The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

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Contact: 8553518550, 080-23240644 Email: civilqualityconsultants@gmail.com

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

08.06.2022

Specific Gravity And Water Absorption Test

Client	**: Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency	**: M/s SKS Infrastructure Pvt Ltd,** Bangalore.
Name of the Work	: Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore
BIS Code	:IS 2386(Part 3):1963
Type of Mix	Bituminous Concrete
Date of Testing	06.06.2022 to 08.06.2022

Sl. No.	Details	Notation	Test Number			Mean Value
			Test 1	Test 2	Test 3	
1	Weight of aggregate suspended in water with the basket	W_1 g	2023	2025	2026	
2	Weight of basket suspended in water	W_2 g	755	755	755	
3	Weight of saturated aggregate in water	$(W_1 - W_2) = W_s$ g	1268	1270	1271	
4	Weight of saturated surface dry aggregate in air	W_3 g	2015	2017	2018	
5	Weight of water equal to the volume of the aggregate	$(W_3 - W_S)$ g	747	747	747	
6	Weight of oven dried aggregate	W_4 g	2005	2007	2009	
7	Specific Gravity	$W_4/(W_3-W_S)$	2.684	2.687	2.689	2.687
8	Apparent Specific gravity	$W_4/(W_4-W_S)$	2.720	2.723	2.722	2.722
9	Water Absorption	$((W_3-W_4)*100)/W_4$	0.50%	0.50%	0.45%	0.48%

Comments:

→ Maximum allowable Aggregate Water absorption value for Bituminous Concrete is 2.0%(MORTH table 500.16)

Note:

⇒ The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

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Contact: 8553518550, 080-23240644 Email: civilqualityconsultants@gmail.com

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023 Date: 09.06.2022

TEST REPORT ON STABILITY OF MIX

Client	:	**: Assistant Executive Engineer,** Yeshwanthpura Sub Division,BBMP, Bangalore.
Agency	:	**: M/s SKS Infrastructure Pvt Ltd,** Bangalore.
Name of the Work	:	: Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore
Source of location	:	Hot mix Plant, Bangalore
Type of Mix	:	Bituminous Concrete
Date of Testing	:	09.06.2022

The results of the tests conducted on the Bituminous Concrete mix sample are as follows:

Sl. No	Description	Test Result 1	Test Result 2	Requirement as per MORTH (Table 500-19)
1	Marshal Stability, Kn	9.12	9.28	9 Kn (min)
2	Marshal flow, mm	3.34	3.69	2 – 4
3	Percent air voids in Mineral Aggregate	13.45	14.51	13 – 15
4	Voids in Compacted Mix	3.56	4.47	3 – 6
5	Percent Voids filled with Bitumen	66.67	69.40	65 - 75
6	Density, g/cc	2.25	2.26	--

Note:

⇒ The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

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Contact: 8553518550, 080-23240644 Email: civilqualityconsultants@gmail.com

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No: CQCE/BBMP/SKS/17/2022-2023

09.06.2022

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE

AASHTO T 164 & AASHTO T 30

CLIENT	: Assistant Executive Engineer, Yeshwanthpura Sub Division,BBMP, Bangalore.
AGENCY	: M/s SKS Infrastructure Pvt Ltd, Bangalore.
NAME OF THE WORK	: Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore
SAMPLE ID	:Hot Mix Plant, Bangalore
DATE OF TESTING	09.06.2022

BITUMEN CONTENT DETERMINATION

Description	Sample 1	Sample 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	472.5	472
3. Weight of Asphalt and Mineral matter Extracted, g	27.5	28
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g	-	-
6. Weight of Bitumen Extracted, g. (corrected)	27.5	28
7. Bitumen content in %	5.50	5.60
8. Average	5.55	

GRADATION AFTER EXTRACTION

SIEVE SIZE mm	Test 1 Weight Retained, gm	Cummulative Weight Retained	%Cummulative Retained	% Passing	Requirement as per MORTH table 500.17
19	0	0	0	100	100
13.2	18.6	18.6	3.9	96.1	90 - 100
9.5	66.3	84.9	18.0	82.0	70 - 88
4.75	96.8	181.7	38.5	61.5	53 - 71
2.36	48.2	229.9	48.7	51.3	42 - 58
1.18	42.3	272.2	57.6	42.4	34 - 48
0.600	42.3	314.5	66.6	33.4	26 - 38
0.300	47.8	362.3	76.7	23.3	18 - 28
0.150	44.8	407.1	86.2	13.8	12 - 20
0.075	36.9	444	94.0	6.0	4 - 10

SIEVE SIZE mm	Test 2 Weight Retained, gm	Cummulative Weight Retained	%Cummulative Retained	% Passing	Requirement as per MORTH table 500.17
19	0	0	0	100	100
13.2	18.5	18.5	3.9	96.1	90 - 100
9.5	66.6	85.1	18.0	82.0	70 - 88
4.75	92.3	177.4	37.6	62.4	53 - 71
2.36	42.3	219.7	46.5	53.5	42 - 58
1.18	42.1	261.8	55.5	44.5	34 - 48
0.600	53.6	315.4	66.8	33.2	26 - 38
0.300	50.6	366	77.5	22.5	18 - 28
0.150	33.5	399.5	84.6	15.4	12 - 20
0.075	32.1	431.6	91.4	8.6	4 - 10

Note:
1. The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

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Contact: 8553518550, 080-23240644 Email: civilqualityconsultants@gmail.com

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Testing of Construction Material - Mechanical, Soil, Bitumen, Non Destructive Testing Services, Project Management Consultants, Third Party Quality Assurance, DPR.

Job No.: CQCE/BBMP/SKS/17/2022-2023

09.06.2022

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE

AASHTO T 164 & AASHTO T 30

CLIENT	: Assistant Executive Engineer, Yeshwanthpura Sub Division,BBMP, Bangalore.
AGENCY	: M/s SKS Infrastructure Pvt Ltd, Bangalore.
NAME OF THE WORK	: Construction of Arch and Providing Interlocking Tiles In Front of Sai Baba Temple And Construction of RCC Roof for Ramp Near Ganesha Temple in Ward No 17 & Widening and Improvements to Road From BEL Circle to Mattikere Fly Over, BBMP, Bangalore
SAMPLE ID	:Hot Mix Plant, Bangalore
DATE OF TESTING	09.06.2022

BITUMEN CONTENT DETERMINATION

Description	Sample 1	Sample 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	472.5	472
3. Weight of Asphalt and Mineral matter Extracted, g	27.5	28
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g	-	-
6. Weight of Bitumen Extracted, g. (corrected)	27.5	28
7. Bitumen content in %	5.50	5.60
8. Average	5.55	

GRADATION AFTER EXTRACTION

SIEVE SIZE	Test 1				Requirement as per MORTH table 500.17
mm	Weight Retained, gm	Cummulative Weight Retained	%Cummulative Retained	% Passing	
19	0	0	0	100	100
13.2	15.4	15.4	3.3	96.7	90 - 100
9.5	68.9	84.3	17.8	82.2	70 - 88
4.75	92	176.3	37.3	62.7	53 - 71
2.36	42.3	218.6	46.3	53.7	42 - 58
1.18	42.8	261.4	55.3	44.7	34 - 48
0.600	45.4	306.8	64.9	35.1	26 - 38
0.300	41.8	348.6	73.8	26.2	18 - 28
0.150	45.6	394.2	83.4	16.6	12 - 20
0.075	50.8	445	94.2	5.8	4 - 10

SIEVE SIZE	Test 2				Requirement as per MORTH table 500.17
mm	Weight Retained, gm	Cummulative Weight Retained	%Cummulative Retained	% Passing	
19	0	0	0	100	100
13.2	18.4	18.4	3.9	96.1	90 - 100
9.5	62.3	80.7	17.1	82.9	70 - 88
4.75	95.1	175.8	37.2	62.8	53 - 71
2.36	43.9	219.7	46.5	53.5	42 - 58
1.18	45.4	265.1	56.2	43.8	34 - 48
0.600	50.1	315.2	66.8	33.2	26 - 38
0.300	52.2	367.4	77.8	22.2	18 - 28
0.150	35.4	402.8	85.3	14.7	12 - 20
0.075	32.1	434.9	92.1	7.9	4 - 10

Note:
1. The Material is satisfied as per the requirement.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

Corporate Off.: No. 133, Bhuvaneshwarinagar, Doddabasti Main Road, Bangalore-560 056.
Contact: 8553518550, 080-23240644 Email: civilqualityconsultants@gmail.com

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